YEVTYANOV, S.I.

Category : USSR/Radiophysics - Generation and conversion of radio-frequency oscillations I-4

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1827

Author : Yevtyanov, S.I.
Title : External Influences on a Self-Excited Generator

Orig Pub : Radiotekhnika, 1956, 11, No 6, 3-12

Abstract : Discussion of the principles of formulating the technical calculation for a self-excited generator subject to an external excitation. The calculation does not involve a polynomial approximation of the anode current and makes it possible to take self bias into account. A novelty is the introduction of the method of modulation characteristics, based on the use of a double Fourier series. Certain details of the calculations in synchronous and asynchronous modes are examined.

Card : 1/1

Yevtyanov, S. I.

USSR/Radiophysics - General Problems, I-1

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35236

Author: Yevtyanov, S. I.

Institution: None

Title: On the Connection Between the Abbreviated Equations and the Power Balance

Original Periodical: Radiotekhnika, 1956, 11, No 2, 3-13

Abstract: A detailed description of a method of writing down the abbreviated equations of a generator, in which the power balance at (active and reactive power) is used. Three examples are given: (1) single-tuned-circuit autonomous generator, (2) single-tuned-circuit generator, locked by a harmonic force, and (3) two-tuned-circuit generator with weak coupling between tuned circuits. Bibliography, 9 titles.

Card 1/1

YEVTYANOV, S.I.

Calculating oscillators in overvoltage regimes. Elektrosviaz' 11 no.11:52-58 N '57. (MIRA 10:12)
(Oscillators, Electron-tube)

YEVTYANOV, S.I.; CHELNOKOV, O.A.

Transistor oscillator. Nauch.dokl.vys.shkoly; radiotekh. i elektron.no.1:102-118 '58. (MIRA 12:1)

1. Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo instituta.
(Oscillators, Transistor)

YEVTYANOV, S.I.; KAPRANOV, M.V.; TERESHINA, G.N.

Band oscillator with increased frequency stability. Nauch.dokl.vys. shkoly; radiotekh. i elektron. no.2:89-98 '58. (MIRA 12:1)

1. Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo instituta.

(Oscillators, Electric)

YEVTYANOV, S.I.

Two-cycle frequency dividers. Nauch.dokl.vys.shkoly; radiotekh. i elektron. no.2:134-137 '58. (MIRA 12:1)

1. Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo instituta.

(Frequency changers)

YEVTYANOV, S.I.

Theory of two-cycle frequency dividers. Part 1. Nauch.dokl.vys.shkoly; radiotekh. i elektron. no.2:138-150 '58. (MIRA 12:1)

1. Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo instituta.

(Frequency changers)

9(2) SOV/162-58-3-12/26

AUTHOR: Yevtyanov, S.I.

TITLE: The Theory of a Push-Pull Frequency Divider II (Teoriya dvukhtaktnykh deliteley chastoty II)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Radiotekhnika i elektronika, 1958, Nr 3, pp 84-92 (USSR)

ABSTRACT: In two preceding papers, the author describes the function and the circuits of a DDCh (dvukhtaktnyy delitel' chastoty = push-pull frequency divider) [Ref 1] and applied the general theory for the frequency multiplicity n = 2 [Ref 2]. During the investigation of the frequency divider at n = 2, the characteristic of the anode current was approximated by a fourth-power polynomial, whereby only members with pair power were important. In this paper, the author investigates the DDCh at n = 3, based on the push-pull circuit arrangement of vacuum tubes according to figure 3 of [Ref 1]. The characteristic of the anode current with n = 3 is again approximated by a polynomial

Card 1/3

$$i = a_0 + a_1 e + a_2 e^2 + a_3 e^3 + a_4 e^4 + a_5 e^5 \qquad (1)$$

whereby the members with impair powers are of importance. The author then determines the voltage at the grid e

$$e = A \cos \omega_1 t + E \qquad (2)$$

and the bias by the feedback voltage

$$E = U \cos \left( \frac{\omega_1}{3} t + \varphi \right)$$

Based on the general theory of DDCh developed in [Ref 2] the static operation at n = 3 is described by the equations

$$S_c(x_1) = \frac{1}{R \cos 3\varphi} \qquad (8) \qquad \xi = \frac{S_s}{S_c} \operatorname{tg} 3\varphi \qquad (9)$$

whereby $S_c = I_0/U$, $S_s = I_s/U$. With these equations the author investigates the static operation. Based on these equations, the characteristics of the divider

The Theory of a Push-Pull Frequency Divider II SOV/162-58-3-12/26

are calculated and graphs are presented for the operation at n = 3. There are 6 graphs and 3 Soviet references.

ASSOCIATION: Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo instituta (Chair of Radio Transmitting Equipment of the Moscow Institute of Power Engineering)

SUBMITTED: April 12, 1958

Card 3/3

YEVTYANOV, S.I.; KULESHOV, V.N.

Fluctuations in single-circuit self-oscillators. Nauch.dokl.vys. shkoly; radiotekh.i elektron. no.4:93-102 '58.
(MIRA 12:6)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut Ministerstva svyazi.

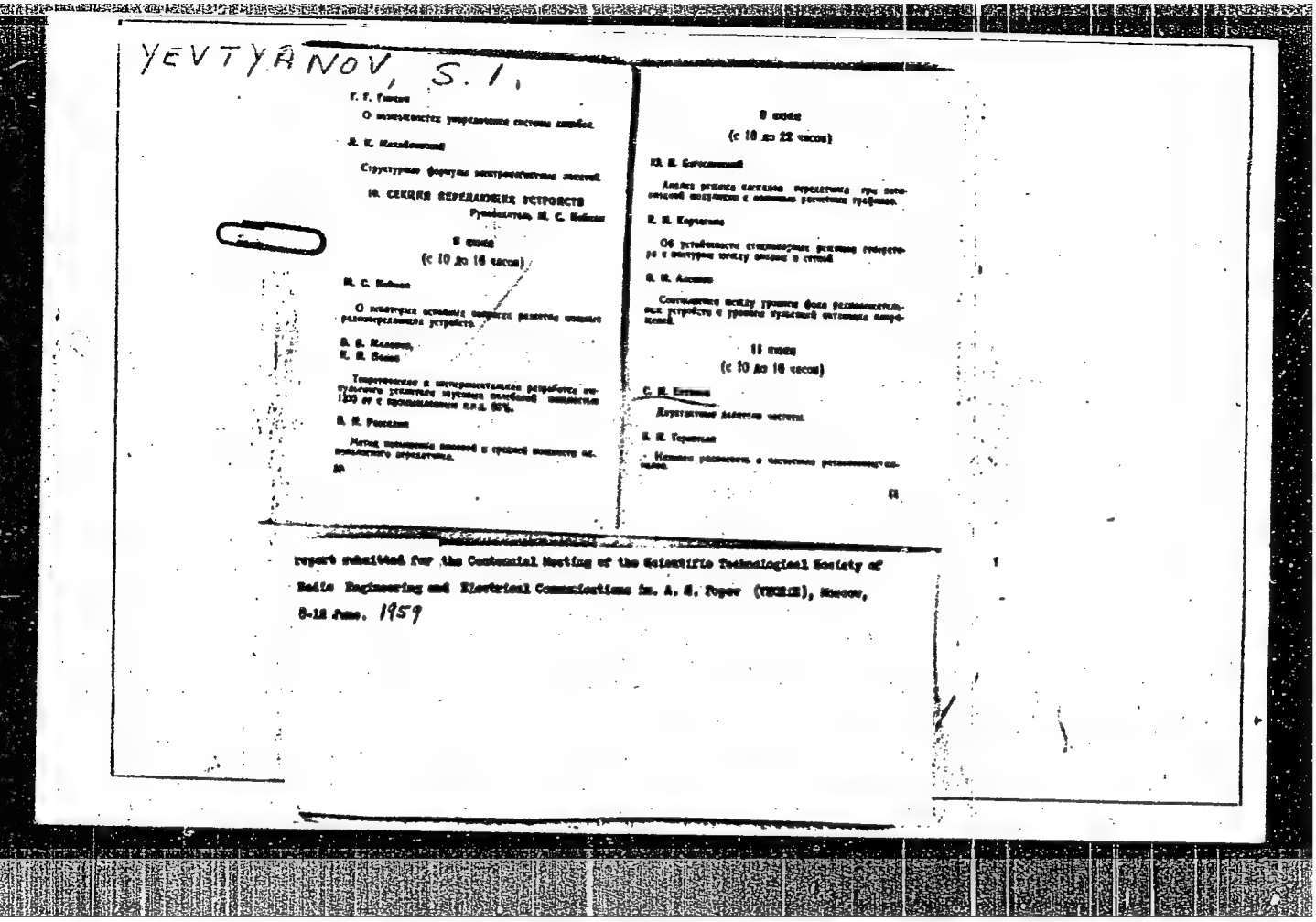
(Oscillators, Electron-tube)

YEVTYAKOV, S.I.; MISHCHENKO, A.V.

Transistor oscillators with phasing. Nauch.dokl.vys.shkoly; radiotekh.i elektron. no.4:103-113 '58. (MIRA 12:6)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut Ministerstva svyazi.

(Oscillators, Transistor)



YEVTYANOV, S. I.

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (NTORIE), Moscow, 8-18 June. 1959

9 (2, 3) SOV/162-59-1-13/27

AUTHOR: Yevtyanov, S.I.

TITLE: Establishing Self-Oscillation Frequency

PERIODICAL: Nauchnyye doklady vysshey shkoly, Radiotekhnika i elektronika, 1959, Nr 1, pp 105-116

ABSTRACT: The author establishes general, shortened symbolic equations for four single-circuit self-oscillators, shown in Figs 1-4. These circuit diagrams show an oscillator circuit with transformer feedback, a Hartley oscillator, a Colpitts oscillator and a dynatron oscillator. It is assumed that the oscillators have a low attenuation ( $\delta$ ) and that their oscillations are close to the harmonic ones. The method of general, shortened symbolic equations was developed by the author [Ref 1]. From these equations he obtained corrections for the frequency during the process of establishing self-oscillations. For approximating the anode current characteristics by a cubic polynomial, the author plotted graphs of the nonisochronism,

Card 1/2

shown in Fig 5, ie. the dependence of the frequency on the oscillation amplitude under transient conditions. In this connection, the author reviews briefly the research into self-oscillator processes performed by N.M. Krylov and N.N. Bogolyubov [Ref 3], and by N. N. Bogolyubov and Yu.A. Mitropol'skiy [Ref 4]. In these papers general calculations were emphasized, but actual circuits were insufficiently investigated. There are 4 circuit diagrams, 1 graph, 2 tables and 6 references, 5 of which are Russian and 1 American.

ASSOCIATION: Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo instituta (Chair of Radio Transmitters of the Moscow Power Engineering Institute)

SUBMITTED: October 2, 1958

SOV/162-59-1-16/27

9 (2, 3)

AUTHORS: Yevtyanov, S.I., Isakova, V.K.

TITLE: Automatic Phase Frequency Trimming With Reduced Phase Instability

PERIODICAL: Nauchnyye doklady vysshey shkoly, Radiotekhnika i elektronika, 1959, Nr 1, pp 134-140

ABSTRACT: The authors describe one of the methods of reducing the phase instability of an automatic phase frequency trimming circuit, suggested by S.I. Yevtyanov. A block diagram of an automatic phase frequency trimming circuit with reduced phase instability is shown in Fig 1. For reducing the phase instability, the frequency detuning of a free self-oscillator $\omega_0$, in regard to the frequency of an external force, is compensated by trimming with a frequency detector. The frequency detector, the self-oscillator and a reactance tube form a follow-up system. In case the relative temperature instability of the center frequency of the frequency detector is equal to the instability

Card 1/3

Automatic Phase Frequency Trimming With Reduced Phase Instability

$\omega_0$, then the temperature phase instability may be eliminated. The theoretical considerations were checked experimentally at 1400 kc external force frequency. The self-oscillator frequency was about equal to that of the external force. A circuit diagram of the experimental device is shown in Fig 2. Besides the elements, shown in block diagram Fig 1, there are two amplifiers composed of one 6Zh4 tube each. One of the amplifiers serves as frequency detector input. The phase detector is composed of one 6Kh2P tube, while one 6Zh4 tube has been used in the self-oscillator and for the reactance tube. Two DG-Ts21 diodes are used in the frequency detector. The experimental results are in agreement with theoretical assumptions. The results of the experimental investigation are shown in graphs. There are 1 block diagram, 1 circuit diagram, 4 graphs and 1 Russian reference.

SOV/162-59-1-16/27

Automatic Phase Frequency Trimming With Reduced Phase Instability

ASSOCIATION: Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo instituta (Chair of Radio Transmitters of the Moscow Power Engineering Institute)

SUBMITTED: January 26, 1959

Card 3/3

9 (2) SOV/162-59-1-18/27

AUTHORS: Yevtyanov, S.I., Chelnokov, O.A.

TITLE: The Condition of Self-Excitation of a Transistorized Self-Oscillator

PERIODICAL: Nauchnyye doklady vysshey shkoly, Radiotekhnika i elektronika, 1959, Nr 1, pp 149-162

ABSTRACT: The authors establish the conditions of self-excitation of a single-circuit self-oscillator, assembled according to a generalized Colpitts circuit with one junction transistor, at frequencies, where inertia properties have an influence. A generalized Colpitts oscillator circuit is shown in Fig 1. The S-parameter system was used for investigating the common-emitter circuit. The authors present the frequency relations of S-parameters from a T-shaped equivalent circuit for a junction transistor shown in Fig 2. They investigate the frequency characteristics of the transconductance S, the input admittance $S_0$ and the output admittance S'. The results of the calculations are compa-

Card 1/2

The Condition of Self-Excitation of a Transistorized Self-Oscillator

red to experimental results obtained with a P3B transistor. The inertia properties of a junction transistor may be neglected only at frequencies below 0.02 $\omega_\alpha$ It was established experimentally that self-oscillations may be obtained in the frequency range up to $\omega_\alpha$, using a transistorized Colpitts oscillator. However, at frequencies higher than 0.2 $\omega_\alpha$, the self-oscillations are produced only at great values of $x_0 S_0$, ie. due to optimum phasing. There are 3 circuit diagrams, 6 graphs, 9 references, 7 of which are Russian and 2 American.

ASSOCIATION: Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo instituta (Chair of Radio Transmitters of the Moscow Power Engineering Institute)

SUBMITTED: October 15, 1958

Card 2/2

YEVTYANOV, S.I.; SHEMANAYEV, G.D.

Synchronization of a self-oscillator with two circuits. Nauch. dokl. vys. shkoly; radiotekh. i elektron. no.2:126-137 '59.
(MIRA 14:5)

1. Kafedra radioperedayushchikh ustroystv Moskovskogo energeticheskogo instituta.
(Oscillators, Electric)

S/106/60/000/001/002/005
A056/A126

9,3280

AUTHORS: Yevtyanov, S. I., Snedkov, B. A.

TITLE: Study of a push-pull frequency divider

PERIODICAL: Elektrosvyaz', no. 1, 1960, 11 - 22

TEXT: The author discusses the theory and the computation of push-pull frequency dividers, on the basis of polynomial approximations of the plate-current characteristics. The circuit presents two pentodes $L_1$ and $L_2$ with phase opposition A cos $\omega t$ between the screen grids. Such design gives the possibility of any frequency division, but here the author considers the concrete case of a divisibility n = 2 - 5. The last part of the article treats the relation between the band of synchronisation $\xi$ and the amplitude of the input $a = \frac{A}{E_0}$, and the relation between the amplitude of auto-oscillation U and a. There are 8 figures and 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Sterky: "Frequency multiplication and division" Proc. IRE no. 9, 1937.

SUBMITTED: September 30, 1959

Card 1/1

YEVTYANOV, S.I.; SMEDKOV, B.A.

Investigation of a push-pull frequency divider. Elektrosviaz' 14 no.1:11-22 Ja '60. (MIRA 13:5)
(Frequency changers)

25003

S/108/61/000/006/001/008
D201/D305

9.3200

AUTHORS: Yavtyanov, S.I., and Kapranov, M.V., Members of the Society (See Association)

TITLE: Processes in high order frequency multipliers

PERIODICAL: Radiotekhnika, no. 6, 1961, 3 - 13

TEXT: In a multi-cascade frequency multiplier, complex processes of amplitude and phase modulation occur. These processes determine the characteristics of the output frequency spectrum. I.S. Gonorovskiy (Ref. 1: Radiosignaly i perekhodnyye yavleniya v radiotsepyakh (Radio Signals and Transient Phenomena in Radio Circuits), Svyaz'izdat, 1954) found the solution for the output voltage of a single stage frequency multiplier (УВП - UVP), using the methods of the theory of the complex variable. Yu.L. Sverdlov (Ref. 2: Radiotekhnika i elektronika No. 6, 1959) applied the method of Gonorovskiy to evaluate the phase modulation at the output of a multicascaded multiplier. In the present article the authors give an

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D201/D305

approximate method which permits the obtaining of comparatively simple expressions for the envelope at the output of a single cascade frequency multiplier, the multiplier not necessarily having a single multiplying circuit, but a system of oscillating circuits very little damped. The expression for the output voltage envelope is determined using the Fourier integral method, preferred to that of Duhamel. From the basic equation

$$u(t) = Z(i\omega)\, i(t) \qquad (1)$$

relating the voltage u(t) at the load (considered as a four pole) to the current at its input ($i\omega$ is an operator and $Z = kZ_\alpha$, where $k = \frac{u}{u_\alpha}$ the transfer coefficient and $Z_\alpha$ - input impedance) the final expression for the envelope of the output voltage is derived as

$$u(t) = \mathrm{Re}\, i\pi n \overline{I}_n \sum_{\kappa=0}^{\infty} \overline{A}^*(t + \kappa T)\, e^{i\alpha_n t}. \qquad (13)$$

where $\overline{I}_n$ is given by

Card 2/8

$$\overline{I}_n = \frac{1}{\pi}\int_0^{t_n} i(t)\, e^{-in\omega t}\, d(\omega t).$$

$\overline{A}^*(t)$ is the complex amplitude given by

$$\overline{A}^*(t) = \overline{A}(t)\, e^{-i\Delta\omega t} \qquad (11)$$

where $\overline{A}(t)$ is the complex amplitude of voltage resulting from a single pulse of current. It may be seen that in order to evaluate the output voltage of a frequency multiplier it is enough to determine the complex amplitudes $\overline{A}^*(t)$ and to add all complex amplitudes for particular pulses. If the load of the multiplier consists of a single oscillating circuit, the voltage across it due to a single current pulse will have the shape as given by

$$a(t) = SRe^{-\frac{\omega_0}{2Q}t}\sin\omega_0 t. \qquad (14)$$

as cited in S.I. Yevtyanov (Ref. 3: Perekhodnye protsessy v priyemmo - usilitel'nykh skhemakh (Transient Process in Receiver-

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Amplifying Circuits) Svyaz'izdat, 1948) where $\delta$ - the damping of the circuit and R - the resonant resistance of the circuit. Introducing the complex amplitude $\bar{A}(t)$ and the generalized detuning $\alpha = \frac{2\Delta\omega}{\omega_0 \delta}$, the voltage across the circuit becomes

$$u(t) = \mathrm{Re}\,\bar{I}_a R \pi n \delta e^{-\frac{1}{2}\omega_0 t} e^{i\omega_0 t} \sum_{x=0}^{\infty} q^x. \qquad (16)$$

where

and

$$q = e^{-(1+i\alpha)x}, \qquad (17)$$

Further, by introducing the dimensionless time

$$x = \pi n \delta. \qquad (18)$$

$$\tau = \frac{\delta}{2}\ \omega_0 t \qquad (21)$$

and after several transformations the expression for the modulus of the output voltage envelope is derived as

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Processes in high order ...

$$U(\tau) = I_n R \frac{x}{1-e^{-x}} \frac{1}{\sqrt{1+\left(\frac{2e^{-\frac{x}{2}} \sin\frac{\alpha x}{2}}{1-e^{-x}}\right)^2}} e^{-\tau}. \qquad (22)$$

If the load circuit is tuned exactly to the n-th harmonic, i.e. if in Eq. (22) $\alpha = 0$

$$U(\tau) = I_n R \varphi(x)\, e^{-\frac{xt}{T}} \qquad (24)$$

is obtained. In this expression the function $\varphi(x)$ reflects the influence of the order of harmonic and that of damping and is given by

$$\varphi(x) = \frac{x}{1 - e^{-x}}. \qquad (25)$$

Graphs are given of the output voltage envelope for several values

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Processes in high order ...

of the generalized damping $x = \pi_n \delta$ in the case of exact tuning to the n-th harmonic. The graphs show that with tuning of the output cct to higher harmonics, the output voltage is far from being monochromatic and that the maximum of the amplitude occurs for t = 0, i.e. at the beginning of the interval between current pulses. The changes in the output voltage amplitude, when the output circuit is retuned to the next harmonic, is considered next. A factor $\mu$ is introduced, which takes into account the influence of detuning $\alpha$ on amplitude

$$\frac{1}{\mu} = \sqrt{1 + \left( \frac{2e^{-\frac{x}{2}} \sin \frac{\alpha x}{2}}{1 - e^{-x}} \right)^2}$$

Its graph is given also which shows that for finite values of generalized damping the function $\mu(\alpha)$ represents a periodic function of detuning. Finally a multi-cascade frequency multiplier with a pass-band filter is considered. The analysis is based on the general expression

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Processes in high order ...

$$\frac{1}{\mu} = \sqrt{1 + \left( \frac{2e^{-\frac{x}{2}} \sin \frac{\alpha x}{2}}{1 - e^{-x}} \right)^2}$$

and given for the case of a multiplier working into two coupled circuits. The resonance resistances of both primary and secondary are assumed to be equal, i.e. $R_1 = R_2 = R$, also $\delta_1 = \delta_2 = \delta$ and respective resonance frequencies $\omega_{o1} = \omega_{o2} = \omega_o$. The following conclusions are drawn: With the increase of the generalized damping $x = \pi n \delta$ troughs appear in the envelopes during the repetition period T with the corresponding increase of overshoots. For large enough values of x, several troughs may occur. The physical reason for these is the interference between primary and secondary circuit frequencies due to coupling. The theory given above has been experimentally checked. Illustrations show the oscillograms of voltages, obtained with a multiplier working into a pass-band filter

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Processes in high order ...

tuned to the 60th harmonic; one shows the voltage at the primary and the other, the voltage at the secondary. The coupling coefficient $\beta = 1.5$ and $x = 3$. [Abstractor's note: No other data of the experiment are given]. There are 6 figures and 3 Soviet-bloc references.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (Radio Engineering and Electrical Communications Society im. A.S. Popov) [Abstractor's note: Name of association taken from first page of journal]

SUBMITTED: December 8, 1960

Card 8/8

YEVTYANOV, S.I.; KULESHOV, V.N.

Fluctuations in self-oscillators. Radiotekh. i elektron. 6 no.4:469-505 Ap '61. (MIRA 14:3)
(Oscillators, Electric)

37570

S/106/62/000/005/001/007
A055/A101

9.2580

AUTHORS: Yevtyanov, S.I.; Shemanayev, G.D.

TITLE: Synchronization of a self-oscillator with a "follow-up" trimming of the circuit

PERIODICAL: Elektrosvyaz', no. 5, 1962, 3 - 11

TEXT: The "follow-up" selfoscillator-circuit trimming system already described by one of the authors [S.I. Yevtyanov, V.K. Isakova, "Fazovaya avtopodstroyka chastoty s oslablennoy nestabil'nost'yu fazy" ("Phase automatic frequency trimming system with reduced phase-instability"), NDVSh, razdel Radiotekhnika i elektronika, no. 1, 1959] is used to widen the synchronization band and to reduce the phase-shift. The system is shown in Figure 1. An exterior force, whose frequency $\omega_{ext}$ is little different from the discriminator center frequency $\omega_d$, acts upon the discriminator. The discriminator output voltage $E_d$ controls, through the reactance tube, the selfoscillator-circuit frequency. This circuit's frequency is equal to $\omega_o$ in the absence of the exterior force; it is equal to $\omega_o'$ when the trimming is operating. The direct synchronization channel is represented by the dotted line. The controlling factor is the detuning between $\omega_d$

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Synchronization of a self-oscillator with a ....

and $\omega_{ext}$. The "follow-up" trimming occurs either when $\omega_{ext}$ varies or when there is a temperature drift of $\omega_d$. In the latter case, the detuning $\Delta\omega_{rt}$ introduced by the reactance tube compensates the simultaneous temperature drift $\omega^o$, and the generated frequency stays constant. The selfoscillator is synchronized at the frequency $\frac{q}{r}\omega_{ext}$, q and r being reciprocally prime numbers. To analyze the synchronization, it is convenient to consider the selfoscillator with "follow-up" trimming as an "autonomous" system whose natural frequency $\omega_o'$ is determined when account is taken of the action of the trimming circuit. If the reactance tube and the discriminator characteristics are, respectively: $\Delta_{rt} = S_{rt} E_d$, and $E_d = S_d (\omega_{ext} - \omega_d)$, $S_{rt}$ and $S_d$ being the transconductances, we have:

$$\omega_o' = \omega_o = S_{rt} + S_d (\omega_{ext} - \omega_d). \quad (1)$$

It is desired that, in the trimming process, the generated frequency should always be equal to the synchronous frequency, i.e.:

$$\omega_o' = \frac{q}{r}\omega_{ext}, \quad (2)$$

and, therefore, $\frac{q}{r}(\omega_{ext} - \frac{r}{q}\omega_o) = S_{rt} S_d (\omega_{ext} - \omega_d)$. These equalities can be satisfied only if

Synchronization of a self-oscillator with a ....

$$S_{rt}\, S_d = \frac{q}{r} \qquad (3) \qquad \text{and} \qquad \omega_o = \frac{q}{r}\,\omega_d \,. \qquad (4)$$

If the selfoscillator and the discriminator circuits are tuned (in a certain point of the range) according to (4), this equality will be maintained in the case of a temperature drift only if:

$$\frac{\Delta\omega_o}{\omega_o} = \frac{\Delta\omega_d}{\omega_d} \,. \qquad (5)$$

The following frequency characteristic is next deduced by the authors:

$$\Delta\omega_o' = \Delta\omega_o\,(1 - \xi)\,, \qquad (7)$$

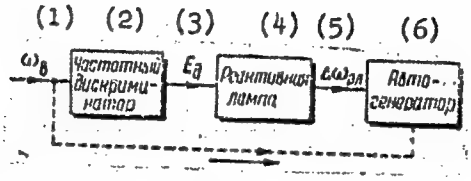
where $\xi = \frac{r}{q}\, S_{rt}\, S_d$ is the trimming factor. On the basis of (7), the authors discuss the characteristics of the synchronous operation with a quasi-statical variation of the detuning. They find, for instance, that, when $\xi = 1$, the synchronous oscillations are in phase with the exterior force and their amplitude is constant. A practical application of the examined system is described in the second part of the article, and the results of this practical experiments are discussed. There are 13 figures and 1 Soviet-bloc reference.

SUBMITTED: February 2, 1962

Card 3/4

Synchronization of a self-oscillator with a .... S/106/62/000/005/001/007
A055/A101

Figure 1: (1) $\omega_{ext}$; (2) frequency discriminator; (3) $E_d$; (4) reactance tube; (5) $\Delta\omega_{rt}$; (6) self-oscillator




Card 4/4

6.4420

S/108/62/017/007/003/008
D288/D308

AUTHORS: Yevtyanov, S. I., Isakova, V. K., Members of the Society (see Association)

TITLE: Automatic delayed phase control of frequency

PERIODICAL: Radiotekhnika, v. 17, no. 7, 1962, 26-33

TEXT: A general analysis of an a.p.c. system is presented, consisting of the controlled oscillator, r.f. amplifier, phase discriminator, low pass filter, and reactance device. Relationships between acceptable correction delay, low pass filter time constant, and amplitude and phase responses of the amplifier are investigated. Transmission characteristics are established for the amplifier, detector and filter networks, and the reactance valve-oscillator combination, in terms of amplitude and phase coefficients, and the external sync frequency $\omega_e$, assuming that the amplifier has symmetrical amplitude and phase response,

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is tuned to $\omega_e$ and has idealized limiting properties. The characteristic equation is discussed and used to derive synchronization and stability limits. The latter are dealt with in detail. Assuming a simple integrating low pass filter with a bell-shaped amplitude response and a linear phase response, an approximate plotting of normalized (i.e., dimensionless) delay vs. the filter time constant, with the normalized amplifier bandwidth as parameter, is described. It becomes more and more accurate when the number of amplifier stages increases. It is also shown that near the stability limits a simple linear relationship exists between the normalized delay and bandwidth. There are 4 figures.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A. S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communications im. A. S. Popov) [Abstracter's note: Name of Association taken from first page of journal.]

Automatic delayed phase...

S/108/62/017/007/003/008
D288/D308

SUBMITTED: July 29, 1961

V/B

Card 3/3

YEVTYANOV, S.I.; SHEMANAYEV, G.D.

Synchronization of a self-oscillator with tracking tuning of the stage. Elektrosviaz' 16 no.5:3-11 My '62. (MIRA 15:5)
(Oscillators, Electron-tube)

DEM'YANCHENKO, A.G.; YEVTYANOV, S.I.

Frequency divider using a converter and amplifier.
Radiotekhnika 17 no.10:25-34 O '62. (MIRA 15:9)

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.
(Frequency changers)

BRUYEVICH, A.N.; YEVTYANOV, S.I.; ALEKSANDROVA, A.A., red.

[Approximation of nonlinear characteristics and the spectra under harmonic action] Approksimatsiia nelineinykh kharakteristik i spektry pri garmonicheskom vozdeistvii. Moskva, Sovetskoe radio, 1965. 343 p. (MIRA 18:8)

L 44379-66 EWT(d)

ACC NR: AP6021913 SOURCE CODE: UR/0108/66/021/003/0051/0058

AUTHOR: Yevtyanov, S. I. (Active member); Red'kin, G. Ye. (Active member)

ORG: Scientific and Technical Society of Radio Engineering and Telecommunications im. A. S. Popov (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Investigation of the pulse shape in a modulator with an artificial line

SOURCE: Radiotekhnika, v. 21, no. 3, 1966, 51-58

TOPIC TAGS: pulse shape, similarity theory, pulse modulation

ABSTRACT: A method has been worked out for calculating the pulse shape formed during the discharge of artificial line for active resistance. The calculation is based on the involvement of methods of operational computations, the theory of filters, and the similarity of the theory of filters to the theory of long lines. The voltage on the active load is presented in the form of an electric series containing analogs of incident and reflected waves while the waves, reflected from the load, are not taken into consideration. The effect of the number of links of the artificial line on the pulse shape is indicated. Experimental oscillograms of pulses are in good agree-

Card 1/2 UDC: 621.376.5

YEVTYUKHIN, I.

SEREBRYAKOV, Yu., gvardii inzhener-podpolkovnik; YEVTYUKHIN, I., inzhener-podpolkovnik.

For an efficient operation of automobiles. Voen.vest. 33 no.16: 31-33 N '53. (MIRA 10:10)

(Automobiles--Maintenance and repair)

YEVTYUKHIN, I.Ye.; SEREBRYAKOV, Yu.F.; KONKIN, P.I., podpolkovnik, redaktor; KALACHEV, S.G., tekhnicheskiy redaktor

[Driving automobiles in columns] Vozhdenie avtomobilia v kolonne. Moskva, Voen. izd-vo Ministerstva oborony Soiuza SSR, 1955. 79 p. (Automobile drivers) (MLRA 8:7)

YEVTYUKHIN, Ivan Yegorovich; SEREBRYAKOV, Yuriy Fedorovich; KONKIN, P.I., polkovnik, red.; STRELNIKOVA, M.A., tekhn.red.

[Truck driving in convoys] Vozhdenie avtomobilia v kolonne. Izd.2., ispr. i dop. Moskva, Voen.izd-vo M-va obor.SSSR, 1959. 94 p. (MIRA 12:10)
(Russia--Army--Transportation) (Motortrucks)

YEVTYUKHIN, I.

Driving an automobile under difficult conditions. Tr. from the Russian. p.20.
ZA RODINATA, Sofyia, Vol. 6, no. 1, Jan. 1956.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 6 June 1956, Uncl.

YEVTYUKHIN, I., inzhener-podpolkovnik.

Training in driving trucks and armored carriers at night. Voen.vest. 36 no.12:36-41 D '56. (MLRA 10:2)
(Transportation, Military)

VLASOV, Khrisanf Vasil'yevich; KEVTYUKHIN, Ivan Yegorovich; SEREBRYAKOV, Yuriy Fedorovich; GOLOSHCHAPOV, I.M., red.; KONOVALOVA, Ye.K., tekhn.red.

[Driving motor vehicles under difficult conditions] Vozhdenie avtomobilia v slozhnykh usloviiakh. Moskva, Voen.izd-vo M-va obor.SSSR, 1959. 133 p. (MIRA 13:3)
(Automobile drivers)

YEVTYUKHIN, I.Ye.; SHEREMET, M.I.; OKUNEV, Yu.K., podpolkovnik, red.; KRASAVINA, A.M., tekhn.red.

[Maintening motortrucks in operating conditions] Podgotovka avtomobilia k reisu i obsluzhivanie ego v puti. Moskva, Voen. izd-vo M-va obor.SSSR, 1960. 45 p. (MIRA 13:9)
(Motortrucks--Maintenance and repair)

ARESHKIN, Grigoriy Ivanovich; GORYACHEV, Vladimir Trifonovich; YEVTYUKHIN, Ivan Yegorovich; KONSTANTINOV, Sergey Leonidovich; LAVROV, Oleg Mikhaylovich; PERLIN, Vladimir Sergeyevich; SEREBRYAKOV, Yuriy Fedorovich; KOSOROTOV, B.V., inzh.-polkovnik zapasa, red.; ZUDINA, M.P., tekhn. red.

[Training manual for motor vehicle drivers] Posobie dlia podgotovki voditelia avtomobilia. Moskva, Voen.izd-vo M-va obor. SSSR, 1962. 501 p. (MIRA 15:4)
(Automobile drivers) (Vehicles, Military)

VLASOV, Khrisanf Vasil'yevich; YEVTYUKHIN, Ivan Yegorovich; SEREBRYAKOV, Yuriy Fedorovich; OKUNEV, Yu.K., red.

[Motor-vehicle driving under difficult conditions] Vozhdenie avtomobilia v slozhnykh usloviiakh. Izd.2., dop. Moskva, Voenizdat, 1964. 166 p. (MIRA 17:9)

1. YEVTYUKHIN, N.

2. USSR (600)

4. Steam Boilers - Efficiencies

7. My experience in saving fuel and electric energy. Za ekon.mat. no.3, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

ACC NR: AP7002727 SOURCE CODE: UR/0065/67/000/001/0023/0026

AUTHOR: Sentyurikhina, L. N.; Tropkina, G. N.; Oparina, Ye. M.; Yevtyukhina, R. M.; Vladimirova, S. L.

ORG: VNII NP

TITLE: Pastes and suspensions of molybdenum disulfide in various dispersion media

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 1, 1967, 23-26

TOPIC TAGS: lubricant, solid lubricant, lubricant filler additive, silicone lubricant, molybdenum disulfide, grease

ABSTRACT: Pastes and suspensions of $MoS_2$ in oils or synthetic dispersion media (e.g., silicones) are manufactured in various concentrations: pastes which usually contain over 50% $MoS_2$ and suspensions; highly concentrated (50—20%); medium concentrated (20—1%) and low concentration suspensions with $MoS_2$ content below 1%. The study reported was mainly devoted to the investigation of the lubricating properties of high and medium concentration suspensions and pastes, as little attention has been given to their study in spite of their wide-spread use. Rheological properties (the so-called strength limit), colloidal stability, antiwear effect, coefficient of friction and the longevity of films were determined. It was found that pastes and suspensions, which can be prepared with $MoS_2$ and a surfactant in a nonstructured or structured modification (the

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ACC NR: AP7002727

latter having a three-dimensional solid phase network structure), do not differ significantly in their coefficients of friction and longevity of films. (Structuring is achieved by introducing a surfactant, i.e., a soap, usually lithium stearate on heating, when soaps swell in the ambient oil and produce the three-dimensional network). The high strength limit, especially in structured suspensions, is detrimental for the antiwear effect because of a decrease in the mobility of the lubricant. The colloidal stability determined by centrifuging increases with the concentration of $MoS_2$ and the viscosity of the system. The structural activity of soaps is stronger in low concentration suspensions than in highly concentrated ones. The addition of $MoS_2$ increases the antiwear effect of lubricating oils, e.g., the introduction of this solid lubricant into TsIATIM-221 grease increases the longevity of its films by 10—12 times under a 8600 kg/cm$^2$ load. Structured systems with a low content of $MoS_2$, such as VNII NP-242, VNII NP-220 and nonstructured high $MoS_2$-content pastes VNII NP-225 and VNII NP-232 are widely used at the present time. Lubricants with low $MoS_2$ content are usually applied in rolling friction joints; lubricants with high $MoS_2$ content are used in gliding friction and in threaded joints. Orig. art. has: 3 tables and 4 figures.

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 009/ OTH REF: 003/ ATD PRESS: 5111

Card 2/2

YEVTYUKHOV, G.A.

What link-assembly bases should be like. Put' i put. khoz. no.5:10 My '59. (MIRA 12:8)

1.Glavnyy inzhener PMS-73, stantsiya Kuropatkino, Tashkentskoy dorogi.
(Railroads—Track) (Railroads—Equipment and supplies)

YEVTYUKHOV, G.A.

Improving the ballast cleaning machine. Put' i put.khoz. 5 no.6:8 Je '61. (MIRA 14:8)

1. Glavnyy inzh. Putevoy mashinnoy stantsii No.80, st. Saksagan', Stalinskoy dorogi.

(Railroads--Equipment and supplies)

YEVTYUKHOV, O.A.

Machinery in track maintenance and repair. Put' i put.khoz. 5 no.12: 20-21 D '61. (MIRA 15:1)

1. Glavnyy inzh. putevoy mashinnoy stantsii No.80, st. Saksagan', Pridneprovskoy dorogi.
(Railroads--Maintenance and repair)

TYUTYUNNIK, F. R.; YEVTYUKHOV, G. A.

Using the tracklaying machine in replacing rails with used ones. Put' i put. khoz. 7 no.3:7-9 '63. (MIRA 16:4)

1. Nachal'nik sluzhby puti na Pridneprovskoy doroge, Dnepropetrovsk (for Tyutyunnik). 2. Nachal'nik putevoy machinnoy stantsii No. 6, Illarionovo, Pridneprovskoy dorogi (for Yevtyukhov).

(Railroads—Rails)
(Railroads—Tracklaying machinery)

YEVTYUKHOV, I.G., inzh.; CHUBUKOV, V.P., inzh.

Hydrophobic film-forming materials used to protect pavings from icing. Avt. dor. 22 no.9:15 S '59. (MIRA 12:12)
(Roads--Maintenance and repair) (Ice) (Silicon organic compounds)

YEVTYUKHOV, K.

Banner of the seven-year plan. Otdel. truda i [illegible] stroika. 4 no.8:8-11 Ag '61. (MIRA 14:8)
(Automation)

YEVTIUKHOV, K.

"Broken telephone." Okhr.truda i sots.strakh. 6 no.1:32 Ja '63. (MIRA 16:1)
(Industrial accidents)

YEVTYUKHOV, K. S.

Ash Disposal

What to do with the cinder dump. Rab. energ. 2 No. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952 Unclassified.

YEVTYUKHOV, Konstantin Stepanovich; DENISOVA, I.S., redaktor; RAKOV, S.I. tekhnicheskiy redaktor

[Safety methods for loading and unloading work in intrafactory transportation] Tekhnika bezopasnosti pri pogruzochno-razgruzochnykh rabotakh na vnutrizavodskom transporte. [Moskva] Izd-vo VTsSPS Profizdat, 1954. 127 p. (MLRA 8:7)
(Loading and unloading)

YEVTYUKHOV, K.S., GIL'BERG, L.A., redaktor; CHISTYAKOV, A.V., tekhnicheskiy redaktor.

[Safety measures in transportation inside the plant] Tekhnika bezopasnosti vnutrizavodskogo transporta. Izd-.3-e ispr. i dop. Moskva, Gos.izd-vo oboronnoi promyshl.,1955. 227 p. (MLRA 8:9)
(Transportation--Safety measures) (Industrial safety)

YEVTYUKHOV, K., inzh.

Eliminate accidents. Okhr.truda i sots.strakh. no.6:22-25 D '58.
(MIRA 12:1)
(Loading and unloading--Safety measures)

YEVTYUKHOV, Konstantin Stepanovich; DENISOVA, I.S., red.; SHADRINA, N.D., tekhn.red.

[Safety measure technique in loading and unloading work within a plant] Tekhnika bezopasnosti pri pogruzochno-razgruzochnykh rabotakh na vnutrizavodskom transporte. Izd.2., ispr. i dop. Moskva, Izd-vo VTsSPS, 1959. 174 p.

(MIRA 12:12)

(Loading and unloading--Safety measures)

25(1) PHASE I BOOK EXPLOITATION SOV/3284

Butenko, N. L., Engineer, L. D. Ginzburg-Shik, Engineer, K. S. Yevtyukhov, Engineer, V. A. Krylov, Engineer, I. I. Mikheyev, L. M. Khinkis, Engineer, B. Z. Chernyak, Candidate of Technical Sciences, and V. N. Yakovlev, Engineer.

Spravochnik po montazhu zavodskogo oborudovaniya (Handbook on Assembling and Installation of Plant Equipment) Moscow, Mashgiz, 1959. 828 p. Errata slip inserted. 20,000 copies printed.

Ed. (Title page): V. N. Yakovlev, Engineer; Ed. (Inside book): G.A. Molyukov, Engineer; Tech. Ed.: A. Ya. Tikhanov; Managing Ed. for Handbook Literature (Mashgiz): I. M. Monastyrskiy, Engineer.

PURPOSE: This book is intended for technical personnel engaged in the installation and erection of industrial equipment.

COVERAGE: The book contains a set of instructions and engineering data on equipment, devices, and tools used in the installation and erection of industrial equipment and machinery. Installation

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procedures for various machines, pneumatic, hydraulic and lubricating systems are explained. The book also discusses safety regulations and fire prevention instructions to be observed during various operations. The text contains numerous graphs, tables and illustrations. No personalities are mentioned. There are 7 Soviet references.

Handbook on Assembling and Installation (Cont.) SOV/3284



AVAILABLE: Library of Congress

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BROUN, K.; DMITRIYEV, K.; YEVTYUKHOV, K.; VOLKOV, Yu., starshiy nauchnyy sotrudnik

Discussing the article "Methods of drawing-up industrial safety rules and their contents." Okh. truda i sots. strakh. no.6:47-54 Je '59. (MIRA 12:10)

1.Starshiy inzhener po tekhnike bezopasnosti ordena Trudovogo Krasnogo Znameni tresta "Yuzhuraltyazhstroy" Orenburgskogo sovnarkhoza, g.Orenburg (for Broun). 2.Tekhnicheskiy inspektor stantsii Sinarskaya Yuzhno-Ural'skoy zheleznoy dorogi (for Dmitriyev). 3.Zamestitel' nachal'nika Spetsinspektsii Gosgortekhnadzora RSFSR (for Yevtyukhov). 4.Vsesoyuznyy nauchno-issledovatel'skiy institut okhrany truda Vsesoyuznogo tsentral'nogo soveta profsoyuzov, Leningrad (for Volkov).
(Industrial safety)

KEVTYUKHOV, K. [illegible]sh.

Some complaints against authors and publishers. Okhr.truda i sots.strakh. no.7:81-84 Jl '59. (MIRA 12:11)
(Industrial safety)

YEVTYUKHOV, K.

Posters on industrial hygiene. Okhr.truda i sots.strakh. 4 no.7:13-14 Jl '61. (MIRA 14:7)

1. Zamestitel' nachal'nika spetsial'noy inspektsii Gosgortekhnadzora.
(Industrial hygiene—Audio—Visual aids)

YEVTIUKHOVA, B.K. (Rekstin)

Age composition, growth rate and economic significance of perch in the coastal salina system of Lake Baikal. Trudy Lim. inst. 2 pt.3:76-107 '64. (MIRA 17:12)

YEVTYUKHOVA, L. A. ; KOLCHIN, B. A.

Archaeology - Methodology

Some methodological procedures in archaeological research in the U.S.S.R. Vest. AN SSSR, 22, No. 5, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

YEVTYUKHOVA, M.A.

Yevtyukhova, M.A. "On the plants belonging to the Botanical Garden Board," Byulleten' Glav. botan. sada, Issue 1, 1948, p. 90

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949

YEVTYUKHOVA, M. A.

30228

Ekspozitsiya flory Yevropyeyskoy chasti SSSR. Byullyetyen' glav.botan. Sada, vyp. 3, 1949, s. 15-20

SO: LETOPIS' NO. 34

38193. YEVTYUKHOVA, M. A.

Dikorastushchiye rasteniya v zelenom stroitel'stve. Byulleten' Glav. botan. sada, vyp. 4, 1949, s. 60-62

YEVTYUKHOVA, M. A.

35221

Flora i Rastitel'Nost' Nauk SSSR. Trudy Glav. Botan. Sada, T.I,

1949,s. 63-86.- B ib liogr; S. 85-86

SO: Letopis'Zhurnal'nykh Statey, Vol. 34, Moskva, 1949

YEVTYUKHOVA, M.A.

Utilization of ornamental plants of the native flora for landscape gardening. Biul.Glav.bot.sada no.14:55-62 '52. (MLRA 6:5)

1. Glavnyy botanicheskiy sad Akademii Nauk SSSR. (Plants, Ornamental)

YEVTYUKHOVA, M.A.

Steppe flora of the European U.S.S.R. in the exhibition of the Main Botanical Garden. Biul.Glav.bot.sada no.20:43-47 '55. (MLRA 8:9)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR.
(Steppe flora)

YEVTYUKHOVA, M.A.

Flowering in winter. Priroda 46 no.1:126 Ja '57. (MLRA 10:2)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR, Moskva.
(Plants, Flowering of)

YEVTYUKHOVA, M.A.

Geographical races of goldenrod under climatic conditions prevailing in Moscow. Biul. Glav. bot. sada no.34:37-39 '59 (MIRA 13:3)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR.
(Moscow--Goldenrod)

YEVTYUKHOVA, M.A.

Field flowers on Moscow streets. Priroda 48 no.6:127-128 Je '59.
(MIRA 12:5)

1.Glavnyy botanicheskiy sad AN SSSR, Moskva.
(Moscow--Flowers)

DUBROVITSKAYA, N.I.; KRENKE, A.N.; YEVTYUKHOVA, M.A.

In memory of Tat'iana Nikolaevna Bel'skaia. Biul. Glav. bot. sada no. 38:114 '60. (MIRA 14:5)
(Bel'skaia, Tat'iana Nikolaevna, 1897-1960)

VOROSHILOV, V.N.; DAYEVA, O.V.; YEVTYUKHOVA, M.A.; YEGOROVA, Ye.M.; KUZNETSOV, V.M.; KUL'TIASOV, N.V.; NEKRASOV, A.A.; SUROVA, V.P.; TARASOVA, T.I. Prinimali uchastiye BELOVAYA, Yu.N.; KHRYCHEVA, G.P.; TSITSIN, N.V., akademik, otv. red.; ASTROV, A.V., red. izd-va; LAUT, V.G., tekhn.red.

[Native plants of the U.S.S.R.; brief summary of introduction work in the Main Botanical Garden of the Academy of Sciences of the U.S.S.R.] Rasteniia prirodnoi flory SSSR; kratkie itogi introduktsii v Glavnom botanicheskom sadu Akademii nauk SSSR. Moskva, Izd-vo Akad. nauk SSSR, 1961. 359 p. (MIRA 15:3)

1. Moscow. Glavnyy botanicheskiy sad.
(Plant introduction) (Moscow—Botanical gardens)

YEVTYUKOVA, I. P.

YEVTYUKOVA, I. P. "Investigation of Automatic Voltage Regulation in Induction Heating using High-Frequency Currents." Min Higher Education USSR. Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov. Moscow, 1956. (Dissertation for the Degree of Candidate in Sciences)
Technical

So: Knizhaya Letopis', No. 17, 1956

IVANOV, Vyacheslav Aleksandrovich; IZAKOV, Feliks Yakovlevich; YEVTYUKOVA, I.P., red.; LARIONOV, G.Ye., tekhn. red.

[Means for increasing the efficiency of induction heating systems] Puti povysheniia K.P.D. ustanovok induktsionnogo nagreva. Moskva, Gos.energ.izd-vo, 1961. 150 p. (Biblioteka elektrotermista, no.7) (MIRA 14:12)

(Induction heating)

NEKRASOVA, Nina Mikhaylovna, kand. tekhn. nauk, dotsent; KATSEVICH, Leonid Savvich, kand. tekhn. nauk; YEVTYUKOVA, Irina Prokop'yevna; kand. tekhn. nauk; PISHCHEVSKIY, V.P., red.; LARIONOV, G.Ye., tekhn.red.

[Industrial thermoelectric systems] Promyshlennye elektrotermicheskie ustanovki. Moskva, Gos.energ.izd-vo, 1961. 414 p. (MIRA 14:12)

(Electric furnaces) (Electric generators) (Induction heating)

ZARUDI, Moisey Yefimovich; SVENCHANSKIY, A.D., red.; YEVTYUKOVA, I.P., red.; BORUNOV, N.I., tekhn. red.

[Joint operation of inductor alternators with increased frequency] Sovmestnaia rabota induktornykh generatorov povyshennoi chastoty. Moskva, Gos.energ.izd-vo, 1962. 93 p. (Biblioteka elektrotermista, no.9) (MIRA 15:6)
(Electric generators) (Induction heating)

YEVTYUKHOVA-REKSTIN, B.K.

Fecundity of perch (Perca fluviatilis L.) in the coastal shore area of Lake Baikal. Vop.ikht. 2 no.4:648-663 '62.
(MIRA 16:2)

1. Baykal'skiy limnologicheskiy institut Sibirskogo otdeleniya AN SSSR i Nauchno-issledovatel'skiy institut rybnogo khozyaystva Soveta narodnogo khozyaystva Latviyskoy SSR.
(Baikal Lake region—Perch)

YEVTIUKHOVA-REKSTIN, B. K.

Significance of coarse fish in the Volga Delta under various ecologic conditions. Vop. ikht. 2 no.3:397-402 '62. (MIRA 15:10)

1. Kafedra ikhtiologii Moskovskogo gosudarstvennogo universiteta.

(Volga Delta—Fishes)

BASHINSKIY, S.V.; GOBERMAN, M.D.; YEVTYUSHKIN, D.S.; MITIN, S.A.; MUSAKOV, A.N.; MASLOV, N.A., redaktor izdatel'stva; PERSON, M.N., tekhnicheskiy redaktor

[A reference book on labor and wages in the building trades] Spravochnik po trudu i zarabotnoi plate v stroitel'stve. Izd. 2-oe, perer. i dop. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1956. 420 p. (MLRA 10:1)

(Wages) (Building trades)

STREL'CHUK, N., prof., doktor tekhn.nauk; YEVTYUSHKIN, N., inzh.

Experimental determining of fire prevention spacing of open-air installations. Posh.delo 9 no.11:8-11 N '63. (MIRA 17:1)

[redacted], I.F.; [redacted], N.N., kand. tekhn. nauk, rukovoditel' raboty

Results of the experimental study on the parameters of the development and extinction of milled peat fires. Bezop. raboty v shakt. no.4:101-115 '65. (MIRA 19:1)

BOBIN, K.P.; GERASIMOV, N.S.; GOLUBEV, S.G.; DEMIDOV, P.G.; DEM'YANENKO, M.P.; YEVTYUSHKIN, N.M.; ZEMSKIY, M.I.; KALASHNIKOV, K.A.; KONCHAYEV, B.I.; KOROLEV, A.I.; KRZHIZHANOVSKIY, P.I.; KULAKOV, G.M.; POLOSUKHIN, M.N.; ROYTMAN, M.Ya.; RUMYANTSEV, V.I.; SEMUSHKIN, B.V.; SMUROV, A.N.; TARASOV-AGAKOV, N.A.; TOMASHEV, A.I.

Semen Vasil'evich Kaliaev; obituary. Pozh. delo 4 no.5:29 My '58. (Kaliaev, Semen Vasil'evich, 1904-1958) (MIRA 11:5)

STREL'CHUK, N.A., doktor tekhn. nauk; YEVTYUSHKIN, N.M., inzh.

Problem of determining fire limits between open installations. Prom. stroi. 41 no.11:13-18 N '63. (MIRA 17:2)

S/128/62/000/003/004/007
A004/A127

AUTHORS: Tyuteva, N. D., Yovtyushkin, Ya. A.

TITLE: Cast cutting tools

PERIODICAL: Liteynoye proizvodstvo, no. 3, 1962, 38 - 39

TEXT: The authors describe the technology of manufacturing cast cutting tools from the high-speed steel grades P 9 (R9) and P 18 (R18) modified with boron. The burning out of carbon during the smelting process was compensated for by the addition of 0.2% and 0.1% C for the grades R18 and R9 respectively, in the form of R18 steel carburized up to 5%. The addition of this alloy, without reducing the basic quantity of alloying elements, considerably increases the C-content of the melt. The steel was reduced with 0.2% Al, then 0.010% boron was added 70 - 90 seconds prior to casting at a constant temperature of 1,450 - 1,480°C into the molds. The authors give a description of the used chills and casting technology, according to which cutting-off, profiling and chasing tools were manufactured, the steel grades having the following composition: 0.86 - 1.1% C; 7.8 - 9.1% W; 3.0 - 4.0% Cr; 2.0 - 2.9% V; 0.001% B, and 0.8 - 1.1% C; 17.6 - 18.5% W; 3.7 - 4.9% Cr; 0.92 - 1.2% V; 0.001% B. The heat treatment

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Cast cutting tools

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consisted of double tempering for 1 hour each at 600 - 620°C. The following parameters were obtained: HRC 63 - 64, $\sigma_b$ = 80 ÷ 95 kg/mm$^2$, $a_K$ = 0.2 ÷ 1.0 kgm/cm$^2$. The tools were tested on automatic turret lathes. The tests showed that the life of cast tools exceeds that of forged tools by a factor of 1.15 with radial feed and by a factor of 2.4 with tangential feed. The life of cast cut-off tools exceeds that of forged tools of the same type by a factor of 1.6. The authors point out that the life of cast tools can be compared with sintered carbide tools.

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